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From: Restivo, Angela
Sent: Fri 8/7/2015 11:23:23 PM
Subject: FW: Water quality parameters
[Water quality 080715.xlsx](#)

This information was provided by the toxicologist in R8.

From: McKean, Deborah
Sent: Friday, August 07, 2015 5:45 PM
To: Turner, Philip; Rauscher, Jon
Subject: Water quality parameters

Here is the data we have on water quality parameters. There are some data from Farmington. It looks like the pre-incident data that you were hoping for.

Right now, on these data, we are commenting on pH. Below is the current version of the message. ATSDR also made a statement about pH and we are being consistent with that message. I should get the summarized chem data in just a bit.

pH (a measure of acidity) was measured at a number of locations along Cement Creek and the Animas River to Durango and beyond to Farmington, New Mexico. Except for locations within Cement Creek, generally, pH levels were measured before the arrival of the contaminant plumb and found to range between 6.5 and 7.6. When the contaminated water from the mine rupture passed a sampling location, the pH lowered (indicating more acid) to approximately 4.8 (below Silverton). A pH of 4.5 is consistent with the pH of a liquid like black coffee. Later, however, in locations down river, the pH began to return to pre-incident levels. Water acidity levels in the Animas above Cement Creek have been consistent over the past two days at approximately 6.4 to 6.8. The pH of saliva is roughly 6 and the pH of pure water is 7. The acidity level in Cement Creek has remained low at 3.74 since the mine rupture. Tomato juice and apples also have a pH of approximately 3.74.

pH of Common Substances

ACIDIC						NEUTRAL		ALKALINE OR BASIC												
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
Battery Acid	Stomach Acid (Hydrochloric)	Lemon Juice, Vinegar Coke and Pepsi	Grapefruit and Orange Juice	Apples, Dr. Pepper Soda	Tomato Juice, Beer	Acid Rain, 7-UP Soda	Black Coffee, Pepto Bismol	Healthy Skin, Hair and Nails	Urine, Saliva, Milk	"Pure" Water, Blood	Shampoos (7.0 to 10.0)	Baking Soda, Seawater, Eggs	Perm Solutions (8.5 to 9.5)	Toothpaste, Hand Soap	Milk of Magnesia, Mild Detergent	Household Ammonia and Cleaners	Soapy Water	Hair Straighteners (11.5 to 14.0)	Bleach, Oven Cleaner	Liquid Drain Cleaner, Caustic Soda

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